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SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Fields, Howard A.
Khudyakov, Yury E.
- (ii) TITLE OF INVENTION: Antigenically Reactive Regions of the
Hepatitis A Virus Polyprotein
- (iii) NUMBER OF SEQUENCES: 88
- (iv) CORRESPONDENCE ADDRESS:
- (A) ADDRESSEE: Kilpatrick Stockton LLP
 - (B) STREET: 3424 Peachtree Road, N.E.
 - (C) CITY: Atlanta
 - (D) STATE: Georgia
 - (E) COUNTRY: USA
 - (F) ZIP: 30326
- (v) COMPUTER READABLE FORM:
- (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
- (A) APPLICATION NUMBER: US 09/171,432
 - (B) FILING DATE: 23-NOV-1998
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
- (A) NAME: Greene, Jamie L.
 - (B) REGISTRATION NUMBER: 32,467
 - (C) REFERENCE/DOCKET NUMBER: 03063-0231US
- (ix) TELECOMMUNICATION INFORMATION:
- (A) TELEPHONE: (404) 949-2400
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(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1206

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Gly	Leu	Asp	His	Ile	Leu	Ser	Leu	Ala	Asp	Ile	Glu	Glu	Glu	Gln	Met
1				5					10					15	
Ile Gln Ser Val															
20															

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1208

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Asp	Arg	Thr	Ala	Val	Thr	Gly	Ala	Ser	Tyr	Phe	Thr	Ser	Val	Asp	Gln
1				5					10					15	
Ser Ser Val His															
20															

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1210

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Glu	Val	Gly	Ser	His	Gln	Val	Glu	Pro	Leu	Arg	Thr	Ser	Val	Asp	Lys
1				5					10					15	
<hr/>															
Pro	Gly	Ser	Lys												
			20												

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1211

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Glu	Pro	Leu	Arg	Thr	Ser	Val	Asp	Lys	Pro	Gly	Ser	Lys	Lys	Thr	Gln
1				5					10					15	
<hr/>															
Gly	Glu	Lys	Phe												
			20												

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1212

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Asp	Lys	Pro	Gly	Ser	Lys	Lys	Thr	Gln	Gly	Glu	Lys	Phe	Phe	Leu	Ile
1				5					10					15	
His	Ser	Ala	Asp												
			20												

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1215

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Leu	Tyr	Asn	Glu	Gln	Phe	Ala	Val	Gln	Gly	Leu	Leu	Arg	Tyr	His	Thr
1				5					10					15	
Tyr	Ala	Arg	Phe												
			20												

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1216

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

His	Thr	Tyr	Ala	Arg	Phe	Gly	Ile	Glu	Ile	Gln	Val	Gln	Ile	Asn	Pro
1				5				10						15	
Thr	Pro	Phe	Gln												
			20												

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1217

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Ile	Asn	Pro	Thr	Pro	Phe	Gln	Gln	Gly	Gly	Leu	Ile	Cys	Ala	Met	Val
1				5				10						15	
Pro	Gly	Asp	Gln												
			20												

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1222

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

His	Phe	Lys	Asp	Pro	Gln	Tyr	Pro	Val	Trp	Glu	Leu	Thr	Ile	Arg	Val
1				5					10					15	

Trp	Ser	Glu	Leu
			20

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1224

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Asn	Ile	Gly	Thr	Gly	Thr	Ser	Ala	Tyr	Thr	Ser	Leu	Asn	Val	Leu	Ala
1				5					10					15	

Arg	Phe	Thr	Asp
			20

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1235

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Ser	Asp	Pro	Ser	Gln	Gly	Gly	Gly	Ile	Lys	Ile	Thr	His	Phe	Thr	Thr
1				5					10					15	

Trp	Thr	Ser	Ile
			20

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1236

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Gly	Gly	Ile	Lys	Ile	Thr	His	Phe	Thr	Thr	Trp	Thr	Ser	Ile	Pro	Thr
1				5						10				15	

Leu	Ala	Ala	Gln
			20

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1241

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Gln	Phe	Pro	Phe	Asn	Ala	Ser	Asp	Ser	Val	Gly	Gln	Gln	Ile	Lys	Val
1				5					10					15	
Ile Pro Val Asp															
20															

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1242

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Phe	Asn	Ala	Ser	Asp	Ser	Val	Gly	Gln	Gln	Ile	Lys	Val	Ile	Pro	Val
1				5						10				15	

Asp Pro Tyr Phe
20

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1243

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Ser	Asp	Ser	Val	Gly	Gln	Gln	Ile	Lys	Val	Ile	Pro	Val	Asp	Pro	Tyr
1				5					10					15	
Phe	Phe	Gln	Met												
			20												

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1244

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ile Lys Val Ile Pro Val Asp Pro Tyr Phe Phe Gln Met Thr Asn Thr
 1 5 10 15
 Asn Pro Asp Gln
 20

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1247

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Lys Cys Ile Thr Ala Leu Ala Ser Ile Cys Gln Met Phe Cys Phe Trp
 1 5 10 15
 Arg Gly Asp Leu
 20

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1248



Phe Trp Arg Gly Asp Leu Val Phe Asp Phe Gln Val Phe Pro Thr Lys
1 5 10 15
Tyr His Ser Gly
20

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1249

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Phe Asp Phe Gln Val Phe Pro Thr Lys Tyr His Ser Gly Arg Leu Leu
1 5 10 15
Phe Cys Phe Val
20

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1250

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Phe	Pro	Thr	Lys	Tyr	His	Ser	Gly	Arg	Leu	Leu	Phe	Cys	Phe	Val	Pro
1				5					10					15	
Gly Asn Glu Leu															
20															

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1252

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Gly	Ile	Thr	Leu	Lys	Gln	Ala	Thr	Thr	Ala	Pro	Cys	Ala	Val	Met	Asp
1				5					10					15	
Ile Thr Gly Val															
20															

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1261

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Val	Ala	Ser	His	Val	Arg	Val	Asn	Val	Tyr	Leu	Ser	Ala	Ile	Asn	Leu
1				5					10					15	
Glu Cys Phe Ala															
20															

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1265

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Thr	Thr	Val	Ser	Thr	Glu	Gln	Asn	Val	Pro	Asp	Pro	Gln	Val	Gly	Ile
1				5					10					15	
Thr Thr Met Lys															
20															

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1266

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Gln Asn Val Pro Asp Pro Gln Val Gly Ile Thr Thr Met Lys Asp Leu
1 - - - - - 5 - - - - - 10 - - - - - 15

Lys Gly Lys Ala
20

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1268

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Asn Arg Gly Lys Met Asp Val Ser Gly Val Gln Ala Pro Val Gly Ala
1 - - - - - 5 - - - - - 10 - - - - - 15

Ile Thr Thr Ile
20

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1271

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Ile	Thr	Thr	Ile	Glu	Asp	Pro	Val	Leu	Ala	Lys	Lys	Val	Pro	Glu	Thr
1				5					10					15	
Phe Pro Glu Leu															
20															

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1272

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Glu	Asp	Pro	Val	Leu	Ala	Lys	Lys	Val	Pro	Glu	Thr	Phe	Pro	Glu	Leu
1				5					10					15	
Lys Pro Gly Glu															
20															

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1273
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:
- | | | | | | | | | | | | | | | | |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Lys | Lys | Val | Pro | Glu | Thr | Phe | Pro | Glu | Leu | Lys | Pro | Gly | Glu | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg His Thr Ser | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |
- (2) INFORMATION FOR SEQ ID NO:29:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1274
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:
- | | | | | | | | | | | | | | | | |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Pro | Glu | Leu | Lys | Pro | Gly | Glu | Ser | Arg | His | Thr | Ser | Asp | His | Met |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser Ile Tyr Lys | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |
- (2) INFORMATION FOR SEQ ID NO:30:
- (i) SEQUENCE CHARACTERISTICS:

- Phe Pro Ile Thr
20

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1290

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Thr	Pro	Val	Gly	Leu	Ala	Val	Asp	Thr	Pro	Trp	Val	Glu	Lys	Glu	Ser
1				5				10						15	
Ala Leu Ser Ile															
20															

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1307

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Leu	Ser	Phe	Ser	Cys	Tyr	Leu	Ser	Val	Thr	Glu	Gln	Ser	Glu	Phe	Tyr
1				5				10						15	

Phe Pro Arg Ala
20

(2) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1308

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Ser	Val	Thr	Glu	Gln	Ser	Glu	Phe	Tyr	Phe	Pro	Arg	Ala	Pro	Leu	Asn
1				5				10						15	
Ser Asn Ala Met															
20															

(2) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1310

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Ile Ala Ala Gly
20

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE:- peptide-

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1312

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Met Ser Arg Ile Ala Ala Gly Asp Leu Glu Ser Ser Val Asp Asp Pro
1 5 10 15

Arg Ser Glu Glu
20

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1313

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

```

Ala Gly Asp Leu Glu Ser Ser Val Asp Asp Pro Arg Ser Glu Glu Asp
1           5           10           15
Lys Arg Phe Glu
                20

```

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1314

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

```

Val Asp Asp Pro Arg Ser Glu Glu Asp Lys Arg Phe Glu Ser His Ile
1           5           10           15
Glu Cys Arg Lys
                20

```

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1315

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Ser	His	Ile	Glu	Cys	Arg	Lys	Pro	Tyr	Lys	Glu	Leu	Arg	Leu	Glu	Val
1				5					10					15	
Gly Lys Gln Arg															
20															

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1316

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Pro	Tyr	Lys	Glu	Leu	Arg	Leu	Glu	Val	Gly	Lys	Gln	Arg	Leu	Lys	Tyr
1				5					10					15	
Ala Gln Glu Glu															
20															

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1317

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Gln Arg Leu Lys Tyr Ala Gln Glu Glu Leu Ser Asn Glu Val Leu Pro
1 5 10 15

Pro Pro Arg Lys
20

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1318

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Val Leu Pro Pro Pro Arg Lys Met Lys Gly Leu Phe Ser Gln Ala Lys
1 5 10 15

Ile Ser Leu Phe
20

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1319

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Phe	Ser	Gln	Ala	Lys	Ile	Ser	Leu	Phe	Tyr	Thr	Glu	Glu	His	Glu	Ile
1				5				10					15		
<hr/>															
Met	Lys	Phe	Ser												
				20											

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1327

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Lys	Val	Asn	Phe	Pro	His	Gly	Met	Leu	Asp	Leu	Glu	Glu	Ile	Ala	Ala
1				5				10					15		
<hr/>															
Asn	Ser	Lys	Asp												
				20											

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1328

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Asp	Leu	Glu	Glu	Ile	Ala	Ala	Asn	Ser	Lys	Asp	Phe	Pro	Asn	Met	Ser
1				5					10					15	

Glu	Thr	Asp	Leu
			20

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1331

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Lys	Ile	Asn	Leu	Ala	Asp	Arg	Met	Leu	Gly	Leu	Ser	Gly	Val	Gln	Glu
1				5					10					15	

Ile	Lys	Glu	Gln
			20

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..25
 - (D) OTHER INFORMATION: /label= YK-1665

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Gln	Arg	Leu	Lys	Tyr	Ala	Gln	Glu	Glu	Leu	Ser	Asn	Glu	Val	Leu	Pro
1				5					10					15	
Pro	Pro	Arg	Lys	Met	Lys	Gly	Leu	Phe							
			20					25							

(2) INFORMATION FOR SEQ ID NO:48:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..25
 - (D) OTHER INFORMATION: /label= YK-1757

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Trp	Leu	Asn	Pro	Lys	Lys	Ile	Asn	Leu	Ala	Asp	Arg	Met	Leu	Gly	Leu
1				5					10					15	
Ser	Gly	Val	Gln	Glu	Ile	Lys	Glu	Gln							
			20					25							

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids

(B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1334

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Val	Ile	Gln	Gln	Leu	Asn	Gln	Asp	Glu	His	Ser	His	Ile	Ile	Gly	Leu
1				5					10					15	

Leu	Arg	Val	Met
			20

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1341

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Asn	Ile	Leu	Lys	Asp	Asn	Gln	Gln	Lys	Ile	Glu	Lys	Ala	Ile	Glu	Glu
1				5					10					15	

Ala	Asp	Glu	Phe
			20

(2) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1347

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Leu	Gly	Ser	Ile	Asn	Gln	Ala	Met	Val	Thr	Arg	Cys	Glu	Pro	Val	Val
1				5					10					15	

Cys	Tyr	Leu	Tyr
		20	

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1348

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Arg	Cys	Glu	Pro	Val	Val	Cys	Tyr	Leu	Tyr	Gly	Lys	Arg	Gly	Gly	Gly
1				5					10					15	

Lys	Ser	Leu	Thr
-----	-----	-----	-----

20

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1352

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Thr	Lys	Pro	Val	Ala	Ser	Asp	Tyr	Trp	Asp	Gly	Tyr	Ser	Gly	Gln	Leu
1				5					10					15	
Val Cys Ile Ile															
20															

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1356

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Val Ser Gly Cys Pro Met Arg Leu Asn Met Ala Ser Leu Glu Glu Lys

1	5	10	15
Gly	Arg	His	Phe
20			

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1357

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Leu	Asn	Met	Ala	Ser	Leu	Glu	Glu	Lys	Gly	Arg	His	Phe	Ser	Ser	Pro
1				5					10					15	
Phe Ile Ile Ala															
20															

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal
- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1360

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

```

Asn Pro Ser Pro Lys Thr Val Tyr Val Lys Glu Ala Ile Asp Arg Arg
1           5           10           15

Leu His Phe Lys
                20

```

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1361

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

```

Val Lys Glu Ala Ile Asp Arg Arg Leu His Phe Lys Val Glu Val Lys
1           5           10           15

Pro Ala Ser Phe
                20

```

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1362

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Val Lys Pro Ala Ser Phe Phe Lys Asn Pro His Asn Asp Met Leu Asn
1 5 10 15

Val Asn Leu Ala
20

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1363

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Lys Asn Pro His Asn Asp Met Leu Asn Val Asn Leu Ala Lys Thr Asn
1 5 10 15

Asp Ala Ile Lys
20

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (xi) SEQUENCE DESCRIPTION: SEO ID NO:60:

(2) INFORMATION_FOR_SEQ_ID_NO:61:—

(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (iii) HYPOTHETICAL: NO

- (iv) ANTI-SENSE: NO

- (v) FRAGMENT TYPE: internal

(A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1367

Val Met Thr Val Glu Ile Arg Lys Gln Asn Met Thr Glu Phe Met Glu
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:62:

(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (iii) HYPOTHETICAL: NO

- (iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1368

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Ser	Gln	Gly	Ile	Ser	Asp	Asp	Asp	Asn	Asp	Ser	Ala	Val	Ala	Glu	Phe
1				5				10						15	

Phe	Gln	Ser	Phe												
				20											

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1369

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Asp	Ser	Ala	Val	Ala	Glu	Phe	Phe	Gln	Ser	Phe	Pro	Ser	Gly	Glu	Pro
1				5				10						15	

Ser	Asn	Ser	Lys												
				20											

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1370

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Phe Gln Ser Phe Pro Ser Gly Glu Pro Ser Asn Ser Lys Leu Ser Gly
1 5 10 15

Phe Phe Gln Ser
20

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..25

(D) OTHER INFORMATION: /label= YK-1832

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Ser Ala Val Ala Glu Phe Phe Gln Ser Phe Pro Ser Gly Glu Pro Ser
1 5 10 15

Asn Ser Lys Leu Ser Gly Phe Phe Gln
20 25

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal

(ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1374

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

His	Gly	Val	Thr	Lys	Pro	Lys	Gln	Val	Ile	Lys	Leu	Asp	Ala	Asp	Pro
1				5					10					15	
Val Glu Ser Gln															
20															

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (v) FRAGMENT TYPE: internal

(ix) FEATURE:
 (A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1376

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Gly	Leu	Val	Arg	Lys	Asn	Leu	Val	Gln	Phe	Gly	Val	Gly	Glu	Lys	Asn
1				5					10					15	
Gly Cys Val Arg															
20															

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

~~(A) NAME/KEY: Peptide~~
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1382

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

Asp	Val	Val	Leu	Met	Lys	Val	Pro	Thr	Ile	Pro	Lys	Phe	Arg	Asp	Ile
1				5					10					15	
Thr	Gln	His	Phe												
			20												

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /label= YK-1388

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Met	Glu	Glu	Lys	Ala	Thr	Tyr	Val	His	Lys	Lys	Asn	Asp	Gly	Thr	Thr
1				5					10					15	
Val	Asp	Leu	Thr												
			20												

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1389

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Lys	Asn	Asp	Gly	Thr	Thr	Val	Asp	Leu	Thr	Val	Asp	Gln	Ala	Trp	Arg
1				5				10						15	

Gly	Lys	Gly	Glu
			20

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

- (ix) FEATURE:
 - (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1390

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Arg	Gly	Lys	Gly	Glu	Gly	Leu	Pro	Gly	Met	Cys	Gly	Gly	Ala	Leu	Val
1				5				10						15	

Ser	Ser	Asn	Gln
			20

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide

- (iii) HYPOTHETICAL: NO

- (iv) ANTI-SENSE: NO

- (v) FRAGMENT TYPE: internal

- (ix) FEATURE:

- (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1393

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Val	Ala	Lys	Leu	Val	Thr	Gln	Glu	Met	Phe	Gln	Asn	Ile	Asp	Lys	Lys
1				5					10					15	
Ile Glu Ser Gln															
20															

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: peptide

- (iii) HYPOTHETICAL: NO

- (iv) ANTI-SENSE: NO

- (v) FRAGMENT TYPE: internal

- (ix) FEATURE:

- (A) NAME/KEY: Peptide
 - (B) LOCATION: 1..20
 - (D) OTHER INFORMATION: /label= YK-1394

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Arg	Ile	Met	Lys	Val	Glu	Phe	Thr	Gln	Cys	Ser	Met	Asn	Val	Val	Ser
1				5					10					15	

Lys Thr Leu Phe
20

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1395

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Phe	Thr	Gln	Cys	Ser	Met	Asn	Val	Val	Ser	Lys	Thr	Leu	Phe	Arg	Lys
1				5					10					15	

Ser Pro Ile Tyr
20

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1399

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Met Leu Ser Lys Tyr Ser Leu Pro Ile Val Glu Glu Pro Glu Asp Tyr
 1 5 10 15

Lys Glu Ala Ser
 20

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1407

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Leu Asp Glu Asn Gly Leu Leu Leu Gly Val His Pro Arg Leu Ala Gln
 1 5 10 15

Arg Ile Leu Phe
 20

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1411

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Cys Pro Lys Asp Glu Leu Arg Pro Leu Glu Lys Val Leu Glu Ser Lys
 1 5 10 15
 Thr Arg Ala Ile
 20

(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1412

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Ser Lys Thr Arg Ala Ile Asp Ala Cys Pro Leu Asp Tyr Ser Ile Leu
 1 5 10 15
 Cys Arg Met Tyr
 20

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1414

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Arg Met Tyr Trp Gly Pro Ala Ile Ser Tyr Phe His Leu Asn Pro Gly
 1 5 10 15
 Phe His Thr Gly
 20

(2) INFORMATION FOR SEQ ID NO:80:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /label= YK-1418

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Lys Thr Met Ile Arg Phe Gly Asp Val Gly Leu Asp Leu Asp Phe Ser
 1 5 10 15
 Ala Phe Asp Ala
 20

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1419

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

```

Asp Leu Asp Phe Ser Ala Phe Asp Ala Ser Leu Ser Pro Phe Met Ile
1           5           10           15

Arg Glu Ala Gly
          20

```

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label= YK-1424

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

```

Ile Asn Asn Val Asn Leu Tyr Tyr Val Phe Ser Lys Ile Phe Gly Lys
1           5           10           15

Ser Pro Val Phe
          20

```

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1428

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Gly Gln Lys Ile Val Asp Glu Phe Lys Lys Leu Gly-Met-Thr Ala Thr
1 5 10 15

Ser Ala Asp Lys
20

(2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1429

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Leu Gly Met Thr Ala Thr Ser Ala Asp Lys Asn Val Pro Gln Leu Lys
1 5 10 15

Pro Val Ser Glu
20

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1431

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Pro	Gln	Leu	Lys	Pro	Val	Ser	Glu	Leu	Thr	Phe	Leu	Lys	Arg	Ser	Phe
1				5					10					15	

Asn	Leu	Val	Glu
			20

(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

(A) NAME/KEY: Peptide

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /label= YK-1434

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Ser	Glu	Lys	Thr	Ile	Trp	Ser	Leu	Ile	Ala	Trp	Gln	Arg	Ser	Asn	Ala
1				5					10					15	

Glu	Phe	Glu	Gln
			20

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label=YK-1435

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Ser	Leu	Ile	Ala	Trp	Gln	Arg	Ser	Asn	Ala	Glu	Phe	Glu	Gln	Asn	Leu
1				5				10						15	
Glu Asn Ala Gln															
20															

(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) FRAGMENT TYPE: internal

(ix) FEATURE:

- (A) NAME/KEY: Peptide
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /label=YK-1436

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Trp	Gln	Arg	Ser	Asn	Ala	Glu	Phe	Glu	Gln	Asn	Leu	Glu	Asn	Ala	Gln
1				5				10						15	
Trp Phe Ala Phe															
20															

u